ORDER NO. KM49106662A3

Service Manual

Simplified

Telephone Equipment

KX-T1418-3

(KX-A58)

AUTO-LOGIC
EASA-PHONE
AUTOMATIC TELEPHONE
ANSWERING SYSTEM

- Please use this manual together with the Service manual for model No. KX-T1418 order No. KM48702428C1.
- This Service Manual indicates the main differences between; Original KX-T1418 and KX-T1418-3.

CHANGES

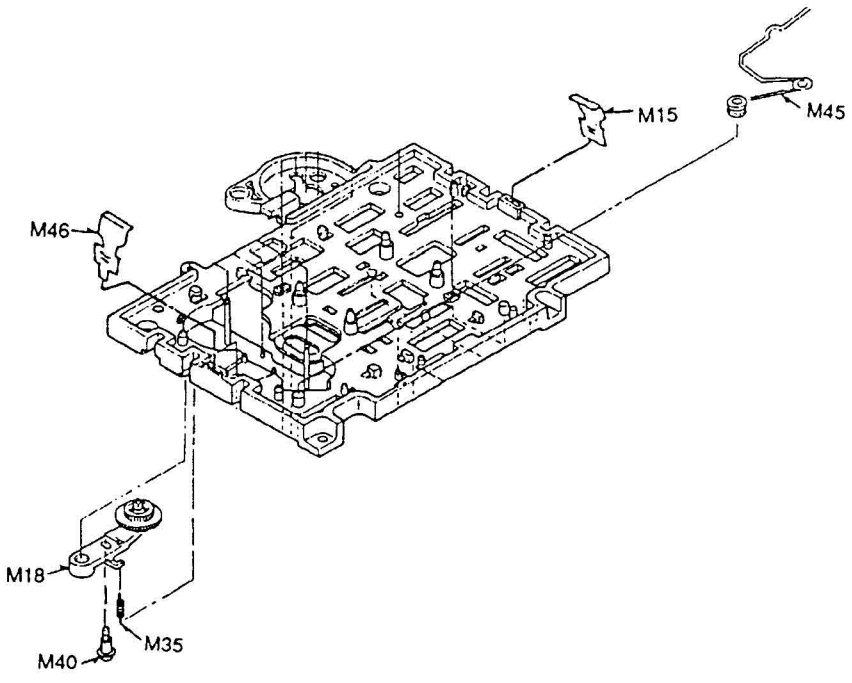
Panasonic EASA-PHONE
MODEL NO. KX-T1418 ③
POWER SOURCE
DC IN 12V/13V (USE **Panasonic** AC ADAPTOR
KX-A11 OR KX-A07L ONLY)

Matsushita Electric Industrial Co., Ltd. Made in Japan

Part No. T1056ZA

(Model KX-T1418-3)

1. The model KX-T1418-3, have a mark ③ on the name plate in figure above.
2. Please use this manual for model KX-T1418-3.



(Model KX-T1418-3)

Panasonic

CABINET AND ELECTRICAL PARTS LOCATION

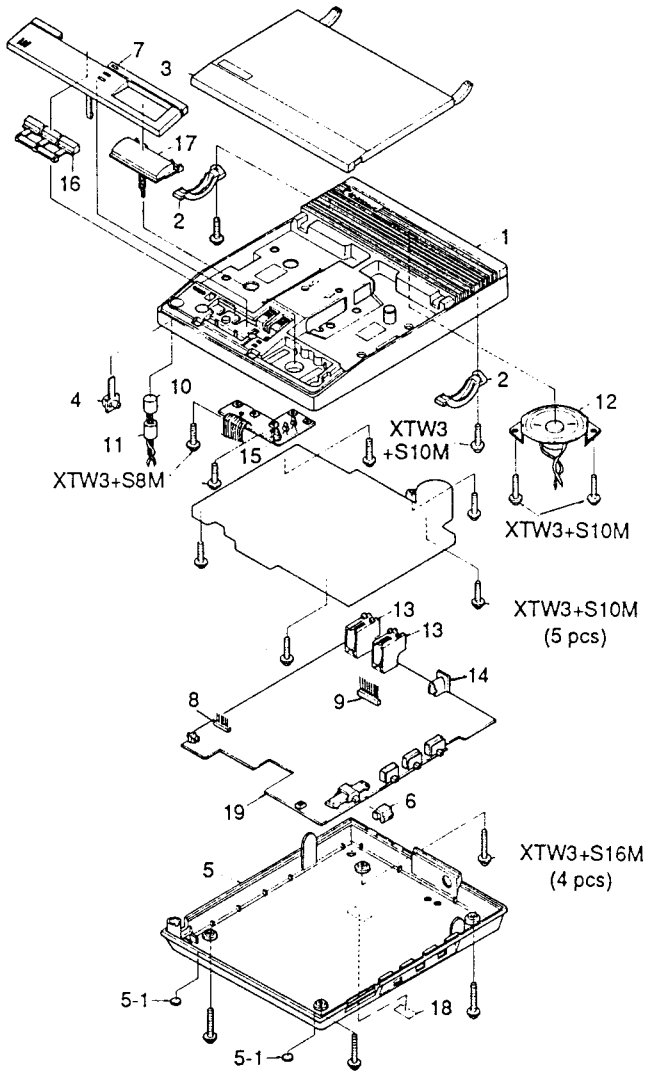
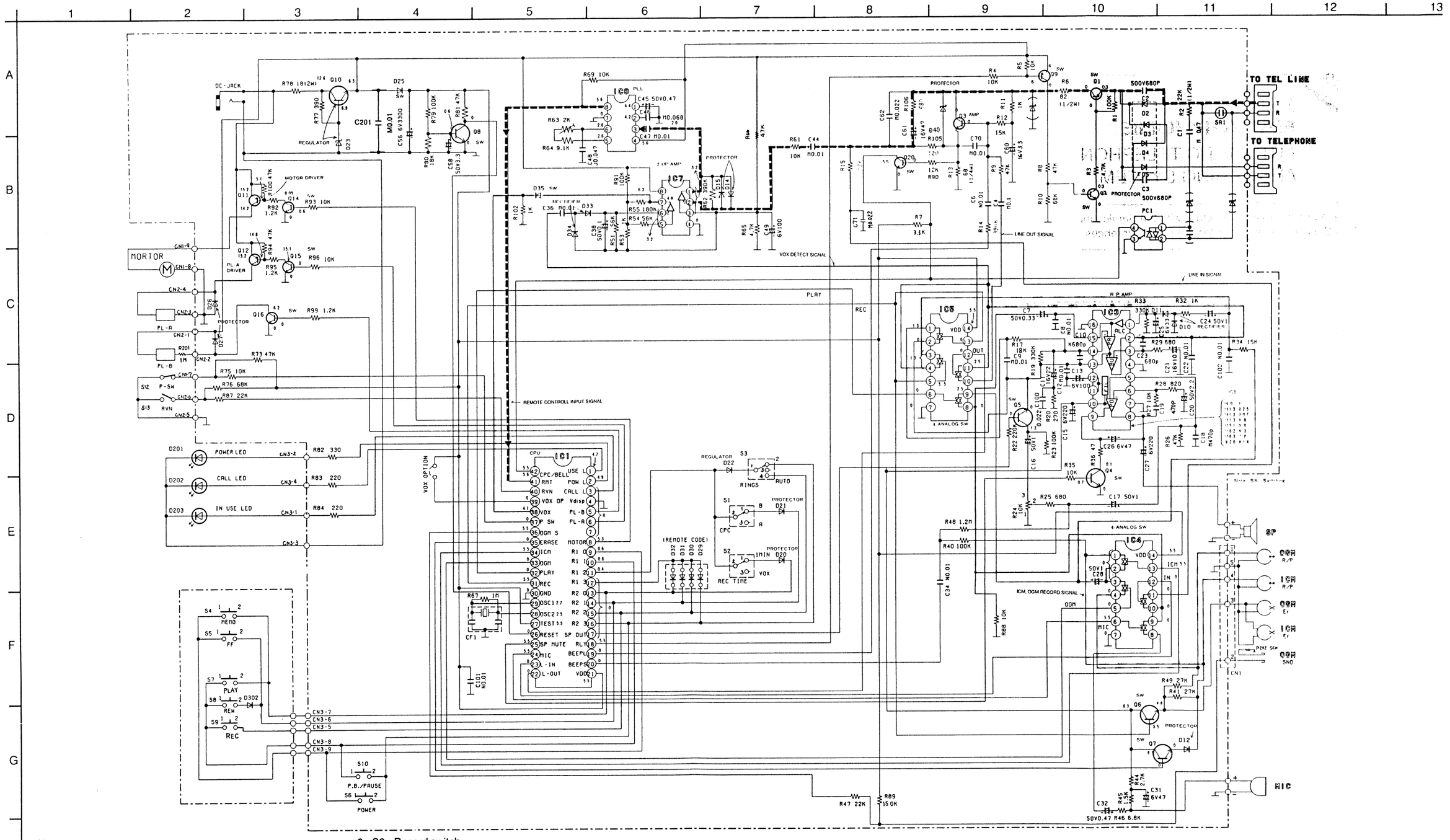


Fig. 9

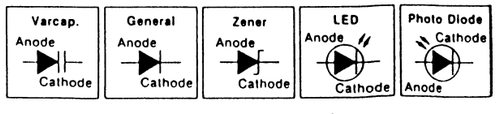
SCHEMATIC DIAGRAM



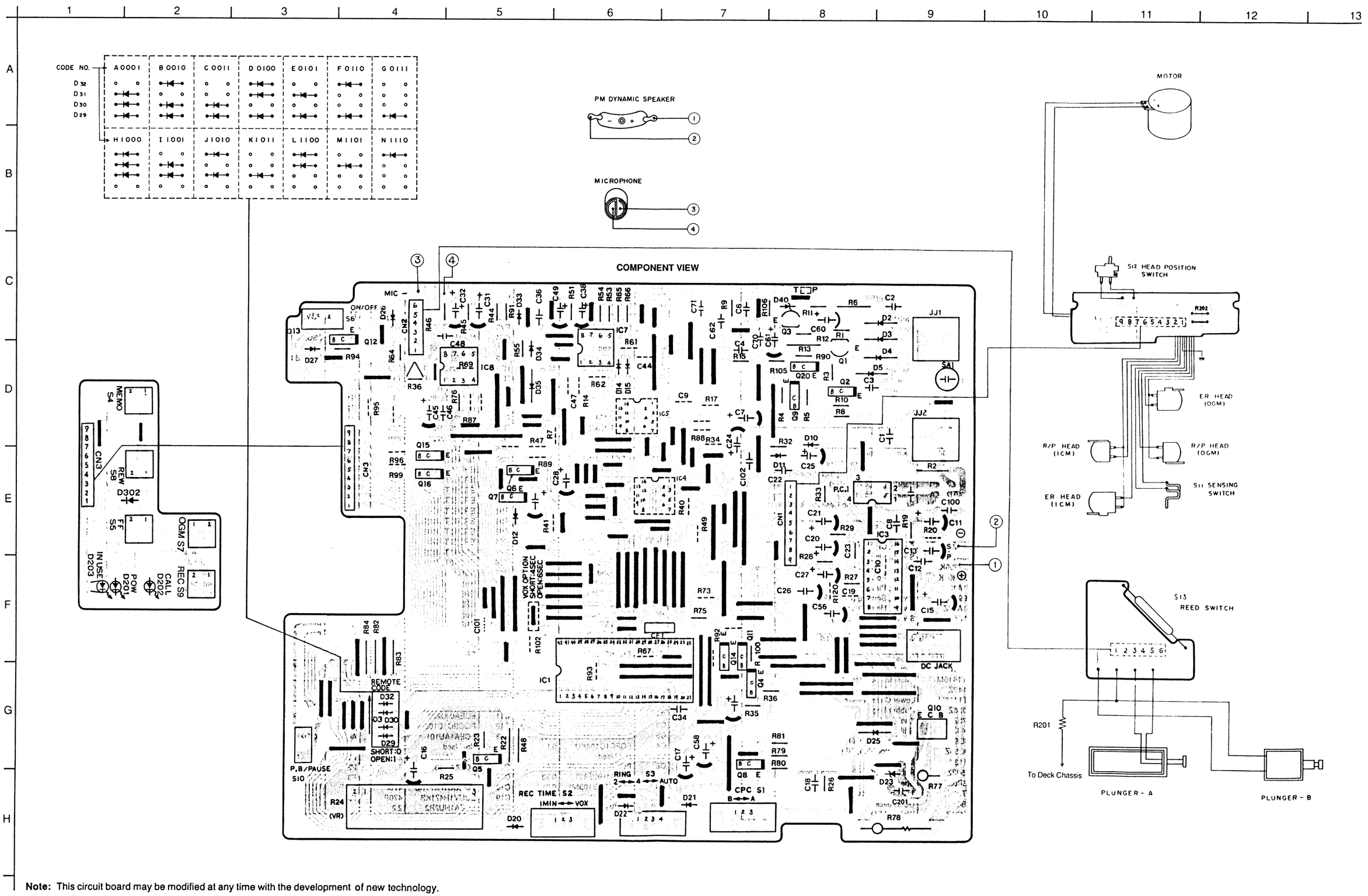
Notes:

1. S1: CPC switch in "B" position.
2. S2: Recording time selector switch in "1 MINUTE" position.
3. S3: Ring selector switch in "2" position.
4. S4: Message memo switch.
5. S5: Fast forward switch.
6. S6: Power switch.
7. S7: OGM-Start/Stop switch.
8. S8: Review switch.
9. S9: Record switch.
10. S10: Playback/Pause switch.
11. S11: Sensing switch.
12. S12: Head position switch.
13. S13: Reed switch.
14. DC voltage measurements are taken with electronic voltmeter from negative line.
15. This schematic diagram may be modified at any time with the development of new technology.

Important safety notice
The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded of the schematic.



CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



Note: This circuit board may be modified at any time with the development of new technology.

REPLACEMENT PARTS LIST

Notes: Model KX-T1418-3

1. Printed circuit board assembly with mark (NLA) is no longer after available production discontinuation of the complete set.
2. Important safety notice.
   Components identified by the ⚠ mark special characteristics important for safety. when replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms(Ω) k=1000Ω,M=1000kΩ
   All capacitors are in MICRO FARADS(μF) P= 0.001μF
   *Type &Wattage of Resistor
   Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fuse
PQRD:Carbon	ERO:Metal Film	ERF:Wire Wound

Wattage

10,16,1B:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	5:5W

*Type & Voltage of Capacitor
Type

ECFD:Semi Conductor	ECCD,ECKD,PQCBC : Ceramic
ECQS:Styrol	ECQM,ECQV,ECQG,ECQE,ECQU ECQB: Polyster
PQCBX,ECUV:Chip	ECEA,ECSZ,ECOS : Electrolytic
ECMS:Mica	ECOP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H:50V	05: 50V	OF:3.15V	OJ :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		OJ:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description		Pcs
		MECHINICAL PARTS		
M1	PQJH6E4Z	Erase Head		2
M2	PQJH1E6Y	P/R Head		2
M3	PQFI1010Z	Pinch Roller (OGM)		1
M4	PQFI1007Z	Pinch Roller (ICM)		1
M5	PQFW37Z	Guide Rib, Position Switch		1
M6	PQFD9910Z	Head Base Assembly		1
M7	PQHD17Z	Screw		1
M8	PQFR9909Z	Reel Table (Suuply) Assembly		1
M9	PQFR9910Z	Reel Table (Takeup) Assembly		1
M10	PQFM9908Z	Motor Assembly		1
M11	PQFI4Z	Rubber Spacer, Motor		2
M12	PQHD4Z	Screw, Motor Mtg		2
M13	PQFG45Z	Gear, FF		1
M14	PQFZ9903Y	Flexiable P.C. Board Assembly		1
M14-1	PQJS9B30Z	Connector ,9P		1
M14-2	PQRDS2TJ563	Carbon Film Resistor, 56kΩ (R202)		1
M15	PQFD76Z	Leaf Spring		1
M16	PQFD9908Z	F/R Lever Assembly		1
M17	PQFQ9901Z	F/R Pulley Assembly		1
M18	PQFR9911Z	Play Arm Assembly		1
M19	PQUP962Z	P.C. Board		1
M20	PQJS6B30Z	Connector, 6P		1
M21	PQFP119Z	Plunger-A		1
M22	PQFP121Z	Plunger-B		1
M23	PQFD70Y	Operation Plate		1
M24	PQFF9905Z	Flywheel (ICM) Assembly		1
M25	PQFF9906Z	Flywheel (OGM) Assembly		1
M26	PQFY9905Y	Trigger Lever-B Assembly		1
M27	PQFY9904Y	Trigger Lever-A Assembly		1
M28	PQFG9903Z	Cam Gear Assembly		1
M28-1	PQFS97Z	Spring, Cam Gear		1
M29	PQFD9907Z	Assistant Plate Assembly		1
M29-1	PQFS92Z	Spring, Assistant Plate		1
M30	Not Used			
M31	PQFC9905Z	Mechanism Base Assembly		1
M32	PQFB21Y	Belt		1
M33	PQFS87Z	Spring, Trigger Lever-B		1
M34	PQFS93Z	Spring, Assistant Plate		1
M35	PQFS88Z	Spring, Play Arm		1
M36	PQFS86Z	Spring, Plunger-A		1
M37	PQFS94Z	Spring, Head Base		1
M38	PQFS90Z	Spring, Reel Table		2
M39	PQFS98Z	Spring, Head Azimuth		2
M40	PQHD18Z	Screw		1
M41	PQFN7Z	Washer		4
M42	Not Used			
M43	PQFN50Z	Washer		2
M44	PQFN16Z	Washer		2
M45	PQFS106Z	Spring		1
M46	PQFD77Z	Spring		1
		INTEGRATED CIRCUITS, TRANSISTORS & DIODES		
IC1	PQVI4140SA05	IC		1
IC3	PQVITA7628P	IC	S	1
IC4, 5	PQVITC4066BF	IC	S	2
IC7	AN6552	IC	S	1
IC8	PQVIIR3N05	IC	S	1
Q1	2SA1625	Transistor(Si)		1 ⚠
Q2	2SD662B	Transistor(Si)		1 ⚠
Q3	2SC2120	Transistor(Si)	S	1
Q4-8,14-16 ,20	2SC2021	Transistor(Si)	S	9
Q9	2SA937	Transistor(Si)	S	1
Q10	2SD1266	Transistor(Si)		1
Q11, 12	2SB909M	Transistor(Si)		2
D2-5	PQVDS5688G	Varistor		4
D10-12, 14 ,15, 20-22 ,26, 27,29-34 ,302	1SS131	Diode(Si)	S	17
D23	PQVDMTZ6R8	Diode(Si)		1
D25, 35	1S2076	Diode(Si)		2
D40	MA4180	Diode(Si)	S	1
D201, 202	PQVDSLZ151B5	LED	S	2
D203	LN324GP	LED		1
		OTHERS		
CF1	PQVBFC4004A3	Ceramic Filter		1
PC1	PQVIPC814Y	Photo Electric Tranducer (Photo Coupler)		1 ⚠
SA1	PQVDSAE310F1	Varistor (Surge Absorber)	S	1 ⚠
R24	PQVAL401A14A	Volume Control, 10k(A)	S	1
R63	PQNB3A00B23M	Semi-Fixed, variable Resistor 2k(B)	S	1
		SWITCHES		
S1, 2	PQSS2A27Z	Switch, CPC, REC Time		2
S3	PQSS3A17Z	Switch, Ring		1
S4,5,7,8,9	EVQ-QS205K	Switch, Memo, FF, OGM, REW, REC		5
S6	EVQ-QSH04K	Switch, Power		1
S10	PQSH1A13Z	Switch, Playback/Pause		1
S11	PQFA9901Z	Switch, Sensing (for Deck)		1
S12	PQSH1A17Z	Switch, Head Position (for Deck)		1
S13	PQSE17Y	Switch, Reed (for Deck)		1
		CABINET & ELECTRICAL PARTS		
1	PQYMT1418M2	Upper Cabinet Assembly		1
2	PQME46W	Arm, Cassette Lid		2
3	PQYQT1418M	Cassette Lid Assembly		1
4	PQBC142Z	Button, Power		1
5	PQYFT1418M3	Lower Cabinet Assembly		1
5-1	RHG1028Z	Rubber Leg		2
6	PQBD73Z	Knob, Volume		1
7	PQGG44Z	Grille		1
8	PQJP6D57Z	Connector Plug, 6P (CN2)		1
9	PQJP9D56Z	Connector Plug, 9P (CN1)		1
10	PQJM113Z	Microphone		1
11	PQHG503Z	Rubber Parts, Microphone Cover		1
12	PQAS5P05Z	Speaker		1
13	PQJJ1TA9Z	Telephone Jack		2 ⚠
14	PQJJ1B4Y	DC IN Jack		1
15	PQNW401Z	Waher, LED		1
16	PQBCX32Z	Button, Memo, Rewind, F/F		1
17	PQBC169Z	Button, Playback/Pause		1
18	PQQT39Z	Label		1
19	PQWPT1418M2	P.C. Board Assembly (NLA)		1

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
		RESISTORS			
R1	ERDS2TJ104	100k ⚠	R53	ERDS2TJ102	1k
R2	ERDS1TJ223	22k ⚠	R54	ERDS2TJ563	56k
R3	ERDS2TJ472	4.7k ⚠	R55	ERDS2TJ184	180k
R4	ERDS2TJ103	10k	R56		
R5	ERDS2TJ103	10k	|	Not Used	
R6	ERDS1TJ820	82	R60		
R7	ERD10TLJ332	3.3k	R61	ERD10TLJ103	10k
R8	ERDS2TJ473	47k	R62	ERD10TLJ394	390k
R9	ERDS2TJ473	47k	R63	Not Used	
R10	ERDS2TJ683	68k	R64	ERDS2TJ912	9.1k
R11	ERDS2TJ102	1k	R65	ERDS2TJ472	4.7k
R12	ERDS2TJ153	15k	R66	ERDS2TJ472	4.7k
R13	ERD25TJ680	68	R67	ERD10TLJ105	1M
R14	ERD10TLJ394	390k	R68	Not Used	
R15	ERDS2TJ123	12k	R69	ERD10TLJ103	10k
R16	Not Used		R70		
R17	ERD10TLJ183	18k	|	Not Used	
R18	Not Used		R72		
R19	ERDS2TJ334	330k	R73	ERD10TLJ473	47k
R20	ERD10TLJ271	270	R74	Not Used	
R21	Not Used		R75	ERDS2TJ103	10k
R22	ERD25TJ224	220k	R76	ERDS2TJ683	68k
R23	ERDS2TJ104	100k	R77	PQRD12VJ391	390
R24	Not Used		R78	PQRQM2VJ180	18
R25	ERDS2TJ681	680	R79	ERDS2TJ104	100k
R26	ERDS2TJ473	47k	R80	ERDS2TJ183	18k
R27	ERDS2TJ103	10k	R81	ERDS2TJ473	47k
R28	ERDS2TJ821	820	R82	ERD25TJ331	330
R29	ERDS2TJ681	680	R83	ERD25TJ221	220
R30	Not Used		R84	ERD25TJ221	220
R31	Not Used		R85	Not Used	
R32	ERDS2TJ102	1k	R86	Not Used	
R33	ERDS2TJ334	330k	R87	ERD10TLJ223	22k
R34	ERD10TLJ153	15k	R88	ERD10TLJ103	10k
R35	ERDS2TJ103	10k	R89	ERD10TLJ154	150k
R36	ERDS2TJ470	47	R90	ERDS2TJ123	12k
R37			R91	ERDS2TJ104	100k
|	Not Used		R92	ERD10TLJ122	1.2k
R39			R93	ERD10TLJ103	10k
R40	ERD10TLJ104	100k	R94	ERDS2TJ473	47k
R41	ERD10TLJ273	27k	R95	ERD10TLJ122	1.2k
R42	Not Used		R96	ERD10TLJ103	10k
R43	Not Used		R97	Not Used	
R44	ERDS2TJ272	2.7k	R98	Not Used	
R45	ERDS2TJ152	1.5k	R99	ERD10TLJ122	1.2k
R46	ERDS2TJ682	6.8k	R100	ERDS2TJ473	47k
R47	ERD10TLJ223	22k	R101	Not Used	
R48	ERD25TJ125	1.2M	R102	ERD10TLJ102	1k
R49	ERD10TLJ273	27k			
R50	Not Used		R105	ERDS2TJ121	120
R51	ERDS2TJ563	56k	R106	ERDS2TJ681	680
R52	Not Used		R120	ERD10TLJ680	68
			R201	PQRD250TJ105 (for Deck)	1M
		CAPACITORS			
C1	ECQE2474KF	0.47 ⚠	C11	ECEA0JU220	22
C2	ECKD2H681KB	680P ⚠	C12	PQCBC1C103MY	0.01
C3	ECKD2H681KB	680P ⚠	C13	ECEA1AU101	100
C4	ECFD1C104KD	0.1	C14	Not Used	
C5	Not Used		C15	ECEA1AU221	220 S
C6	PQCBC1C103MY	0.01	C16	ECEA1HKS010	1
C7	ECEA1HKSR33	0.33	C17	ECEA1HKS010	1
C8	PQCBC1C103MY	0.01	C18	PQCBC1H471KB	470P
C9	PQCBX1C103MY	0.01	C19	ECUV1H471KB	470P
C10	ECUV1H681KB	680P	C20	ECEA1HU2R2	2.2

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
		CAPACITROS			
C21	ECEA1HU100	10 S	C45	ECEA1HKSR47	0.47
C22	PQCBC1C103MY	0.01	C46	ECFD1C683KD	0.068
C23	PQCBC1H681KB	680P	C47	PQCBX1C103MY	0.01
C24	ECEA1HKS010	1	C48	ECQV1H473JZ	0.047
C25	ECEA1VU330	33 S	C49	ECEA1AU101	100
C26	ECEA1CKS470	47 S	C50		
C27	ECEA1AU221	220 S	|	Not Used	
C28	ECEA1HKS010	1	C55		
C29	Not Used		C56	ECEA0JU332	3300
C30	Not Used		C57	Not Used	
C31	ECEA1CKS470	47 S	C58	ECEA1HU3R3	3.3
C32	ECEA1HKSR47	0.47			
C33	Not Used		C60	ECEA1HKS3R3	3.3
C34	PQCBC1C103MY	0.01	C61	ECEA1EK470	47 S
C35	Not Used		C62	ECFD1E223MD	0.022
C36	PQCBC1C103MY	0.01	C70	PQCBC1C103MY	0.01
C37	Not Used		C71	PQCBC0J223MY	0.022
C38	ECEA1HKS0R1	0.1			
C39			C100	ECFD1E223KD	0.022
|	Not Used		C101	PQCBX1C103MY	0.01
C43			C102	PQCBC1C103MY	0.01
C44	PQCBX1C103MY	0.01	C201	ECFD1E103KD	0.01

Ref No.	Part No.	Part Name & Description		Pcs
		REMOTE CONTROLLER PARTS (KX-A58)		
IC1	PQVIBU3131	IC		1
Q1	2SC2021	Transistor(Si)		1
CF1	PQVBB497E3	Ceramic Filter		1
S2	PQSH1A26Z	Switch		1
R1,6	ERDS2TJ104	100k		2
R2	ERDS2TJ222	2.2k ┐ pair		1
R3	ERDS2TJ392	3.9k ┘		1
R2	ERDS2TJ271	270 ┐ pair		1
R3	ERDS2TJ222	2.2k ┘		1
R4,5	ERDS2TJ273	27k		2
R7	ERDS2TJ105	1M		1
R8	ERDS2TJ152	1.5k		1
C1	PQCBC1C103MY	0.01		1
C2,3	ECKD1H331KB	330P		2
1	PQYMA58AM	Cabinet Body Assembly		1
1-1	PQJC903Y	Battery Terminal,(+), (-) Side		1
1-2	PQJC906Y	Battery Terminal,(-) Side		1
1-3	PQJC921Z	Battery Terminal,(+) Side		1
2	PQBC127Z	Button, Playback/Reset		1
3	PQKF93Z0	Cabinet Cover		1
4	PQBC26Z	Button, Memory Playback/Reset		1
5	PQJT317Z	Terminal		1
6	PQJT365Z	Terminal		1

Ref No.	Part No.	Part Name & Description		Pcs
		ACCESSORIES & PACKING MATERIALS		
A1	KX-A11	AC Adaptor		1 ⚠
A2	PQJA59V	Telephone Cord	S	1
A3	PQJN1E03A4Z	Cassette Tape (Endless)		1
A4	PQQX6381Z	Instruction Book		1
P1	PQPK1328Z	Gift Box		1
P2	PQPN810Z	Cushion		1
P3	PQPN837Z	Accessory Box		1
P4	PQPH55Z	Packing Sheet	S	1
P5	XZB25X34A04	Protection Cover	S	1

O Ⓕ KXT1418M3
Printed in Japan

ORDER NO. KM48702428C1
F1

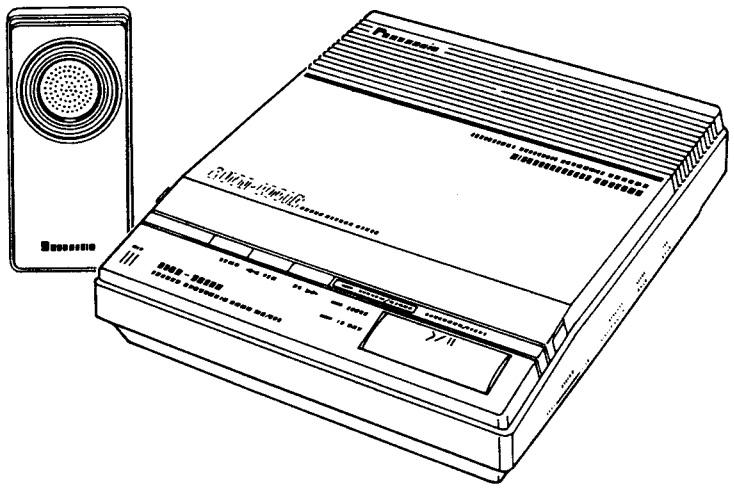
Service Manual

Telephone Equipment

EASA-PHONE®
AUTOMATIC TELEPHONE
ANSWERING SYSTEM

KX-T1418
(KX-A58)

(KX-A58)



■ SPECIFICATIONS

Power Source:	AC adaptor (12 V/13 V, DC)
Outgoing Message (OGM):	30-second endless loop cassette (Variable, up to 30 seconds)
Incoming Message (ICM):	C-60 regular cassette: selectable recording times (1 MIN/VOX)
Tape Deck:	Logic control dual cassette system
Ring Control:	2/4/Auto
Call Counter:	LED up to 15 calls
Power Output:	350 mW max. across the monitor speaker
Monitor Speaker:	2" PM dynamic (8 ohm)
Microphone:	Condenser microphone
Connection:	2 built-in modular jacks, DC-IN jack
Ringer Equivalence:	0.4 B
Dimensions:	176 (W)×48 (H)×214 (D) mm (6 15/16"×1 7/8"×8 7/16")
Weight:	950 g (2 lb. 1 oz.)

Design and specifications are subject to change without notice.

Panasonic

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Victoria Industrial Park
Carolina, Puerto Rico 00630

When you mention the serial number, write down the 11 digits. The serial number may be found on the label affixed to the bottom of the unit.

LOCATION OF CONTROLS

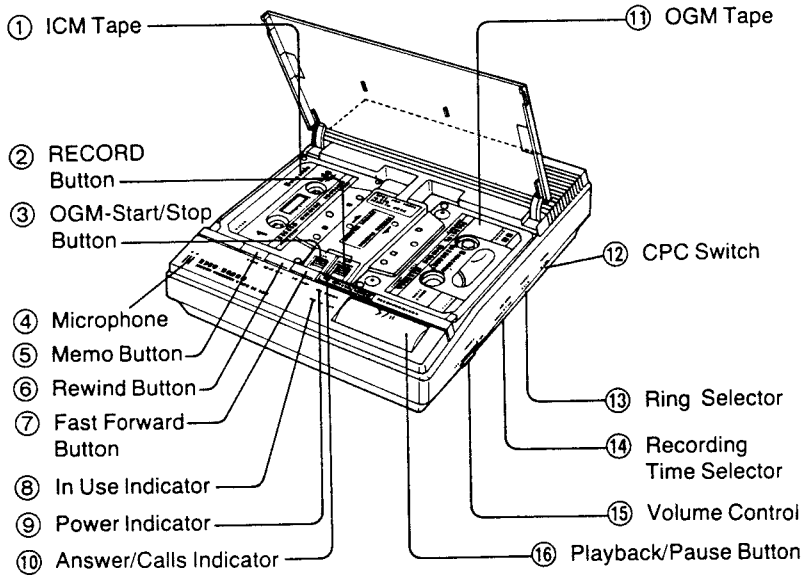


Fig. 1

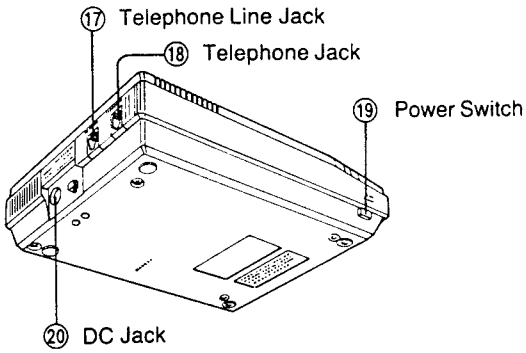


Fig. 2

OPERATIONS

OGM RECORDING

1. Push the RECORD BUTTON and while keeping it pushed, push the OGM-START/STOP BUTTON until a beep sound heard.

2. Speak clearly and loudly.
   * Do not pause for over 2 seconds.

3. When you finish, push the OGM-START/STOP BUTTON.
   * Wait until the indicator goes out.

4. Push the OGM-START/STOP BUTTON.
   * A beep sound and the tape play back.
   * After play back, wait until the indicator goes out.

PRIOR TO LEAVING

ONE TOUCH OPERATION:
The unit will automatically set to the answer mode after the POWER SWITCH is pushed on.
And answer indicator will light.

When the telephone rings, the unit will play the OGM, then it will record the call's message.

LISTENING TO ICM

1. Push the PLAYBACK/PAUSE BUTTON.

1) When push the PLAYBACK BUTTON the unit will automatically rewind, play back and stop then 3 beeps will be heard after the last message.
   After 7 seconds, the unit will automatically reset back to the answer mode.

2) Future incoming message will be recorded after the last recorded message.
   * If you do not want to use the unit on the answer set mode, push the POWER SWITCH off.

MESSAGE MEMO

To record a message to be heard by someone using remote.

1. Push the MEMO BUTTON until a beep sound is heard.

2. Speak into the MICROPHONE.

3. When you finish, push the MEMO BUTTON.

HOW TO ERASE

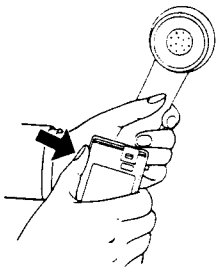
Wait until the plays back and the tape stops.

1. Push the RECORD BUTTON and while keeping it pushed, push the FAST FORWARD BUTTON or REWIND BUTTON until a beep sound is heard.

   * The message are erased while fast forwarding or rewinding.

HOW TO REMOTE CONTROLLER OPERATION

Push the button on the controller continuously, until the beep is heard through the telephone line from the unit.
Place the speaker of the remote controller against the telephone mouthpiece.
The remote controller produces a chirping sound in operation, and the unit responds to the controller with a beep.



HOW TO PLAYBACK MESSAGE

1. Dial the phone number to which the unit is connected.

2. While the OGM is playing, place the Controller speaker against the telephone mouthpiece and push the PLAYBACK BUTTON.

3.The unit will rewind and begin to play back the recorded messages.

4. Hang up.

HOW TO RESET THE INCOMING MESSAGE TAPE

To record future incoming message from the beginning of the tape.

1. Push the PLAYBACK/RESET BUTTON within 8 seconds after the last recorded massages have played back, or while playing back messages.

   * The unit will rewind the tapes and one beep will sound.

2. Hang up.

CONNECTION

1 Connect as shown.

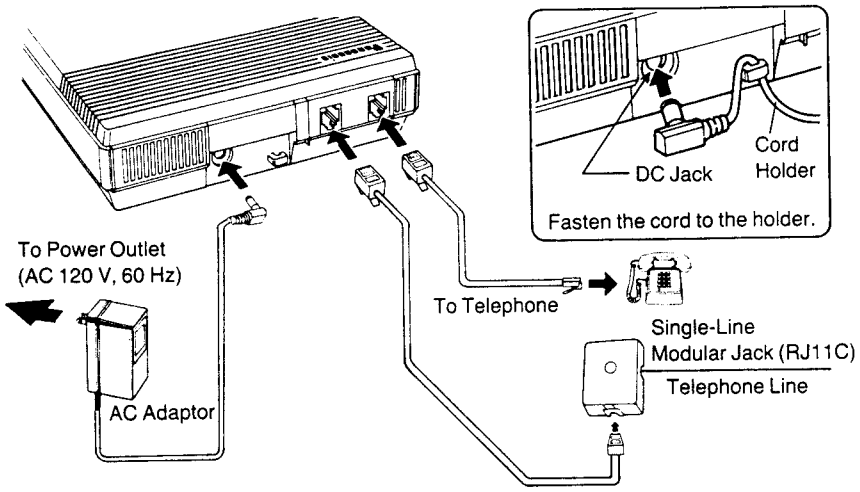


Fig. 3

- If your telephone jack has two separate telephone lines wired to it (USOC RJ14C Connection), as used with a two-line phone, request the telephone company to install a USOC RJ11C connection to one of the two lines.

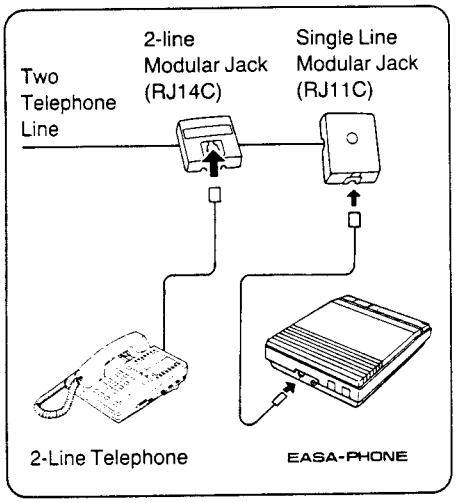


Fig. 4

DISASSEMBLY INSTRUCTIONS

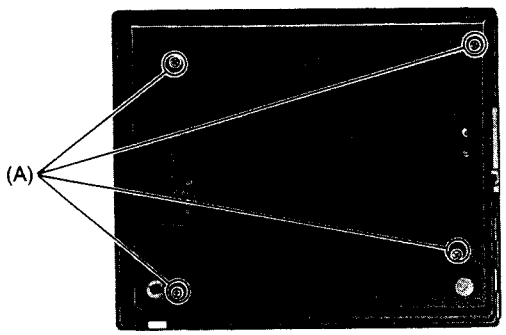


Fig. 5

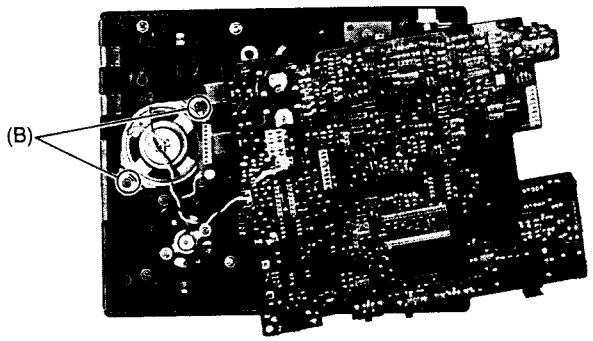


Fig. 6

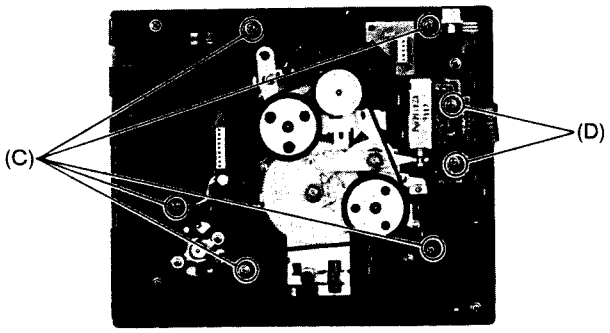


Fig. 7

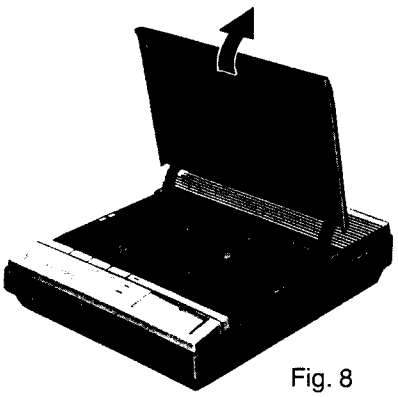
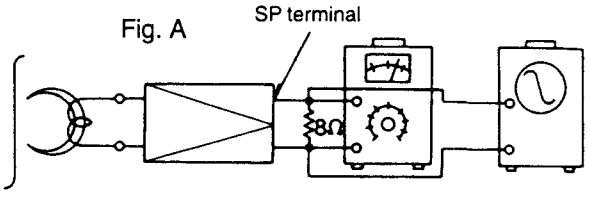
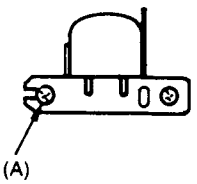


Fig. 8

Procedure	To remove—.	Remove—.	Shown in Fig.—.
1	Lower Cabinet	Screws (3×16) ..... (A)×4	5
2	Printed Circuit Board	Remove the P.C. Board.	6
3		Screws (3×10) ..... (B)×2	6
4	Cassette Deck	Red Screws (3×10) ..... (C)×5	7
5	Sub P.C. Board.	Screws (3×10) ..... (D)×2	7
—	Cassette Lid	Pull out the cassette lid.	8

MEASUREMENT AND ADJUSTMENT METHOD

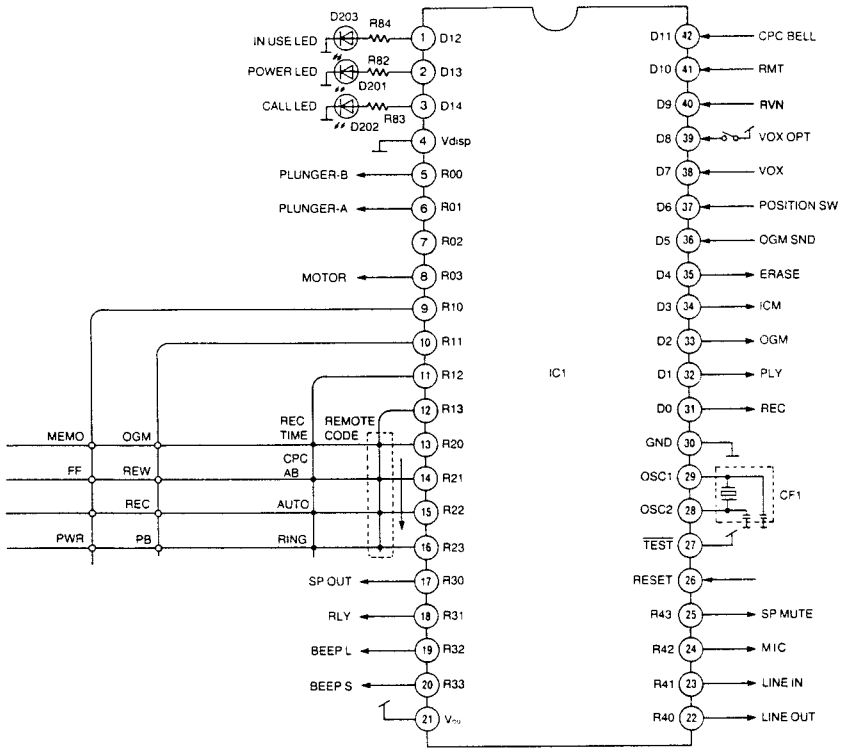
Notes: 1. Make sure the heads are clean.
2. Make sure the capstan and pressure roller are clean.
3. Room temperature for measuring and adjusting: 20±5°C (68±9°F)
4. Test equipments are not treated as replacement parts.

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
Head azimuth adjustment	**A. Record/playback head for incoming message cassette** 1. Playback test tape (QZZCWAT 3 kHz) 2. Adjust screw (A) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown below.) Fig. A  **B. Record/Playback head for outgoing message cassette** 1. Playback test tape (PQJN17Z 3 kHz) 2. Adjust screw (A) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown in fig. A)	• Record/playback head for incoming message and outgoing message.  Fig. B

■ REMOTE SIGNAL ADJUSTMENT

1. Connect the frequency counter.
   ⊕ side to IC8 pin ⑤.
   ⊖ side to ground.
2. Adjust R63 for 2300±10 Hz on frequency counter reading.

CPU DATA



Part No: PQVI4140SA05
Power Supply: 5±0.5 V
Program ROM: 2048×10 bit
Inside Data RAM: 160×4 bit

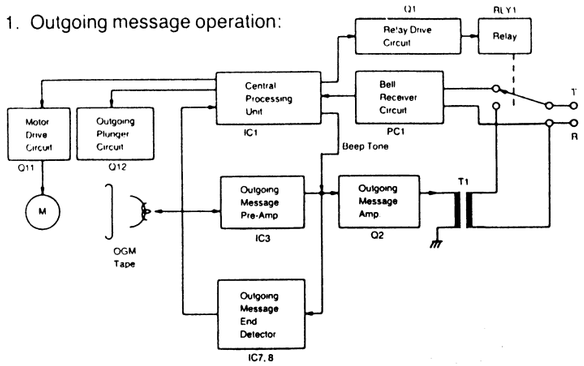
OPTION:

SWITCH	OPEN	SHORT
REC TIME	VOX	1 MIN
CPC AB	A 6	B 600
AUTO	———	AUTO
RING	4	2
VOX OPT	6S	4S

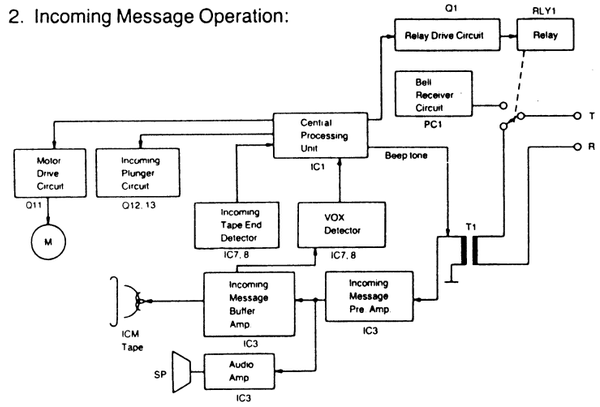
No.	Port	Function	High	Low	No.	Port	Function	High	Low
1	D12	IN USE LED	ON	OFF	22	R40	Line-Out	Active	———
2	D13	POWER LED			23	R41	Line-In		
3	D14	CALL LED			24	R42	Microphone		
4	Vdisp	Vdisp			25	R43	SP Mute		
5	R00	Plunger-B	Active	———	26	RESET	Reset		
6	R01	Plunger-A			27	TEST	Test		
7	R02	Not used			28	OCS2	OCS2		
8	R03	Motor	Active	———	29	OCS1	OCS1		
9	R10	Key strobe	ON	OFF	30	GND	Ground		
10	R11	Key strobe			31	D0	Record	Active	———
11	R12	Key strobe			32	D1	Play		
12	R13	Remote Code			33	D2	OGM		
13	R20	Key Input	ON	OFF	34	D3	ICM		
14	R21	Key Input			35	D4	Erase		
15	R22	Key Input			36	D5	OGM SND SW	———	Detection
16	R23	Key Input			37	D6	Position SW	Neutral	
17	R30	SP Out	Active	———	38	D7	VOX	Disable	Enable
18	R31	Relay	———	Active	39	D8	VOX Option		
19	R32	Beep L			40	D9	RVN, (Reed SW)		
20	R33	Beep S			41	D10	RMT	———	Active
21	V_{DD}	V_{DD}			42	D11	CPC/Bell	CPC	Bell

BLOCK DIAGRAM

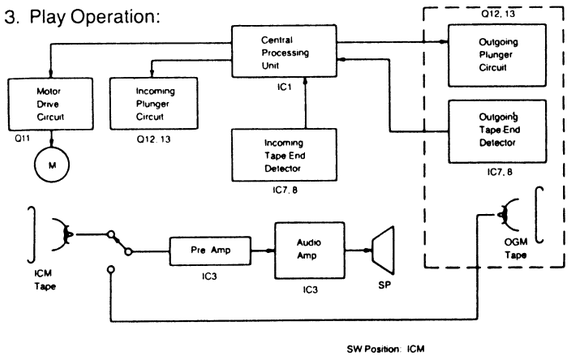
1. Outgoing message operation:



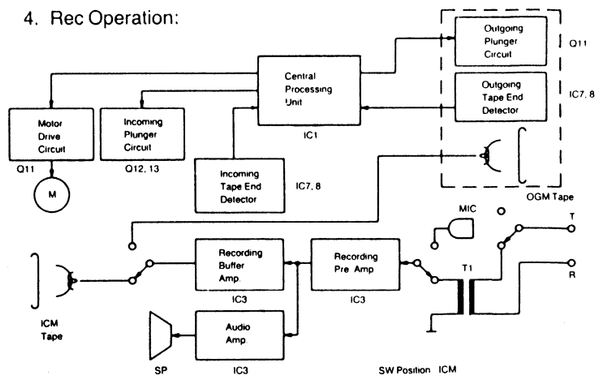
2. Incoming Message Operation:



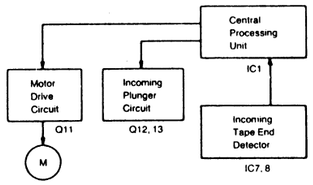
3. Play Operation:



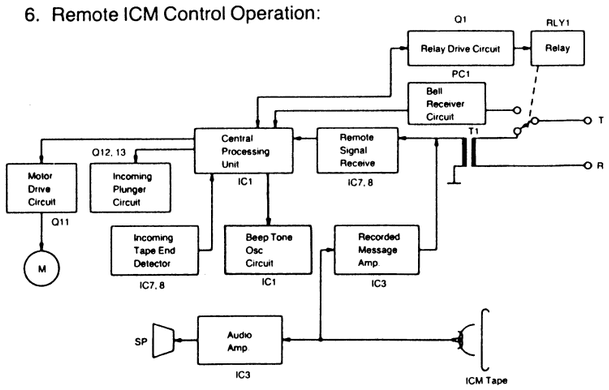
4. Rec Operation:



5. Cue & Review Operation:



6. Remote ICM Control Operation:



CABINET AND ELECTRICAL PARTS LOCATION

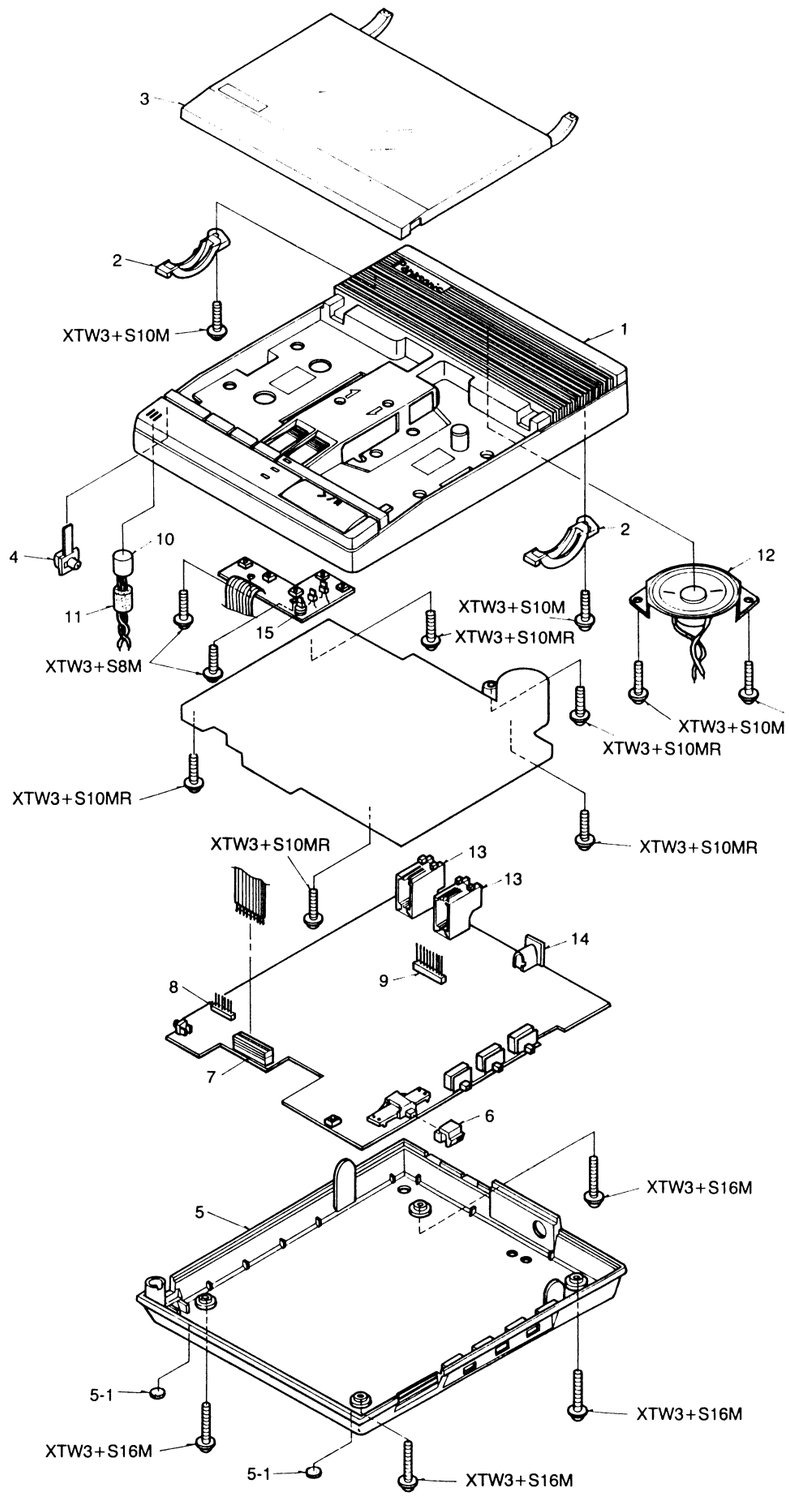
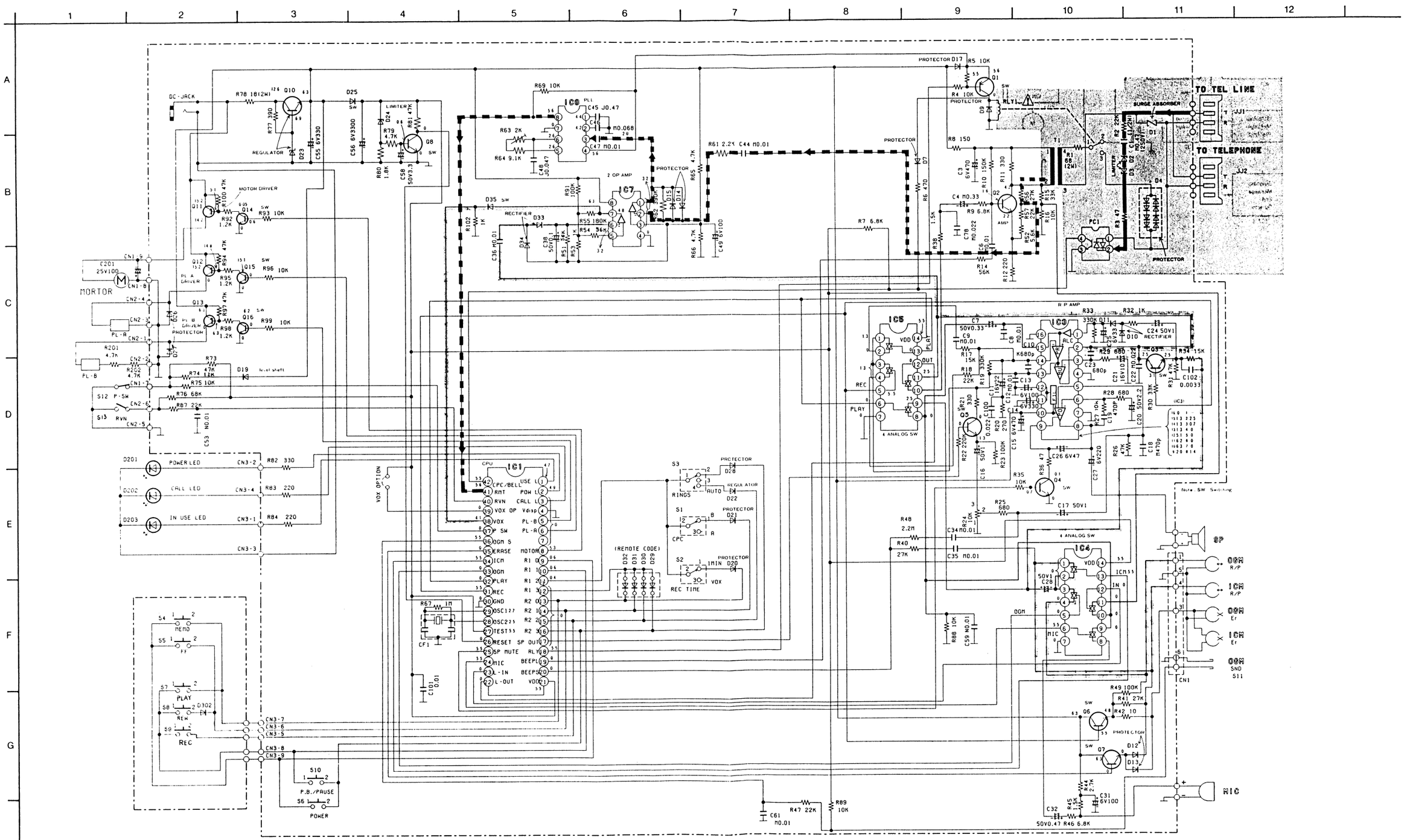
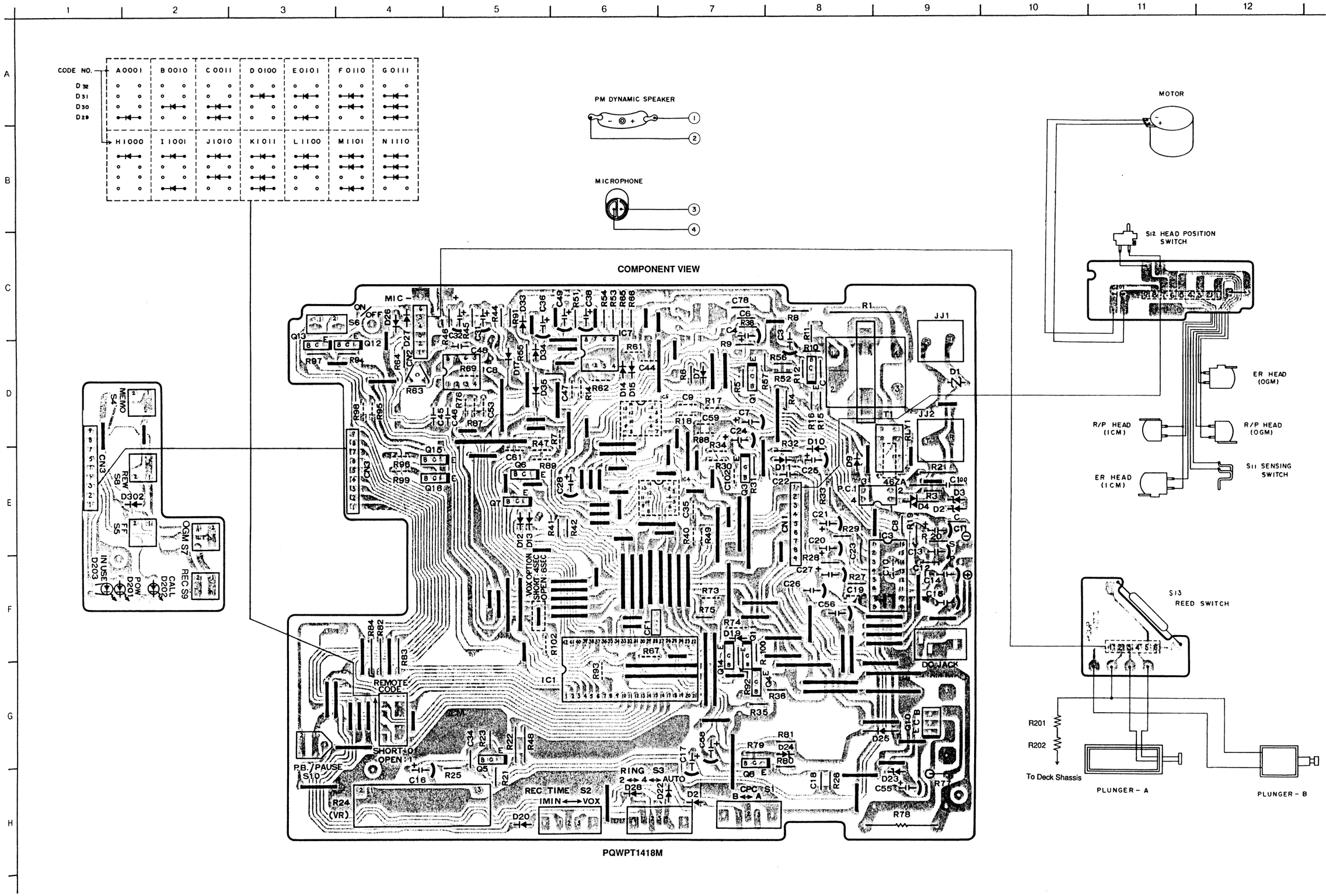


Fig. 9

CIRCUIT DIAGRAM



CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



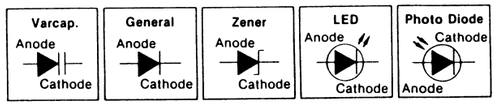
PQWPT1418M

■ FOR SCHEMATIC DIAGRAM

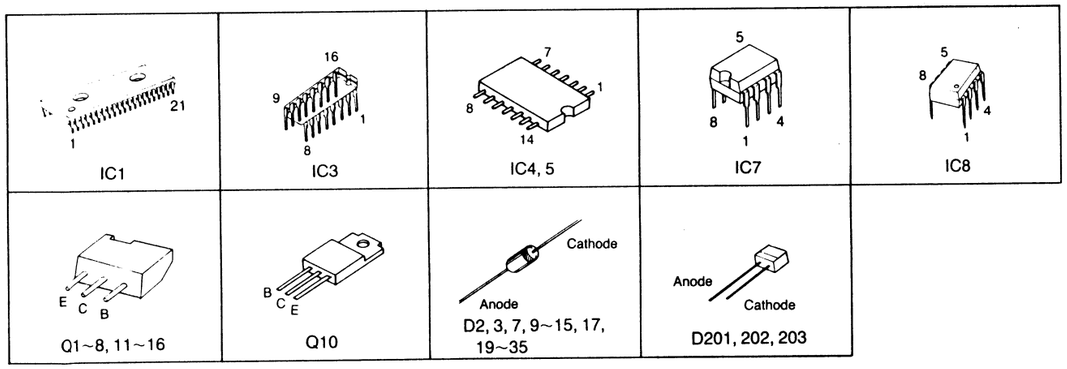
Notes:

1. S1: CPC switch in "B" position.
2. S2: Recording time selector switch in "1 MINUTE" position.
3. S3: Ring selector switch in "2" position.
4. S4: Message memo switch.
5. S5: Fast forward switch.
6. S6: Power switch.
7. S7: Start/Stop switch.
8. S8: Review switch.
9. S9: Record switch.
10. S10: Playback/Pause switch.
11. S11: Sensing switch.
12. S12: Head position switch.
13. S13: Reed switch.
14. DC voltage measurements are taken with electronic voltmeter from negative line.
15. This schematic diagram may be modified at any time with the development of new technology.

Important safety notice
The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.



TERMINAL GUIDE OF ICs, TRANSISTORS AND DIODES



EXTENSION CORD CONNECTING METHOD

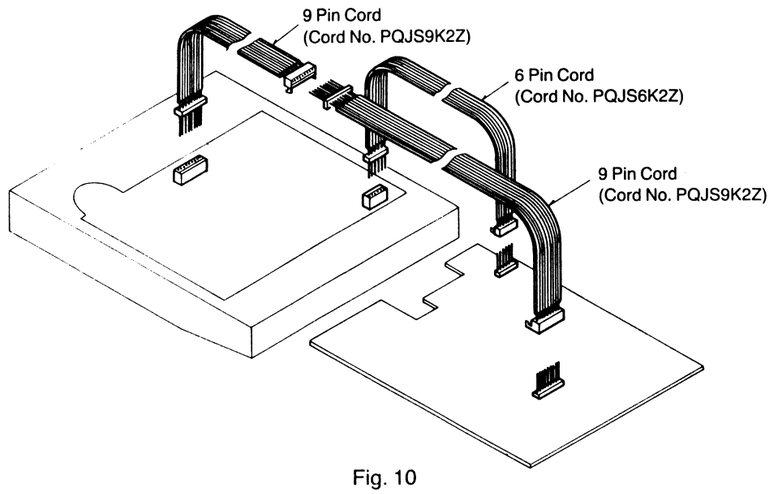
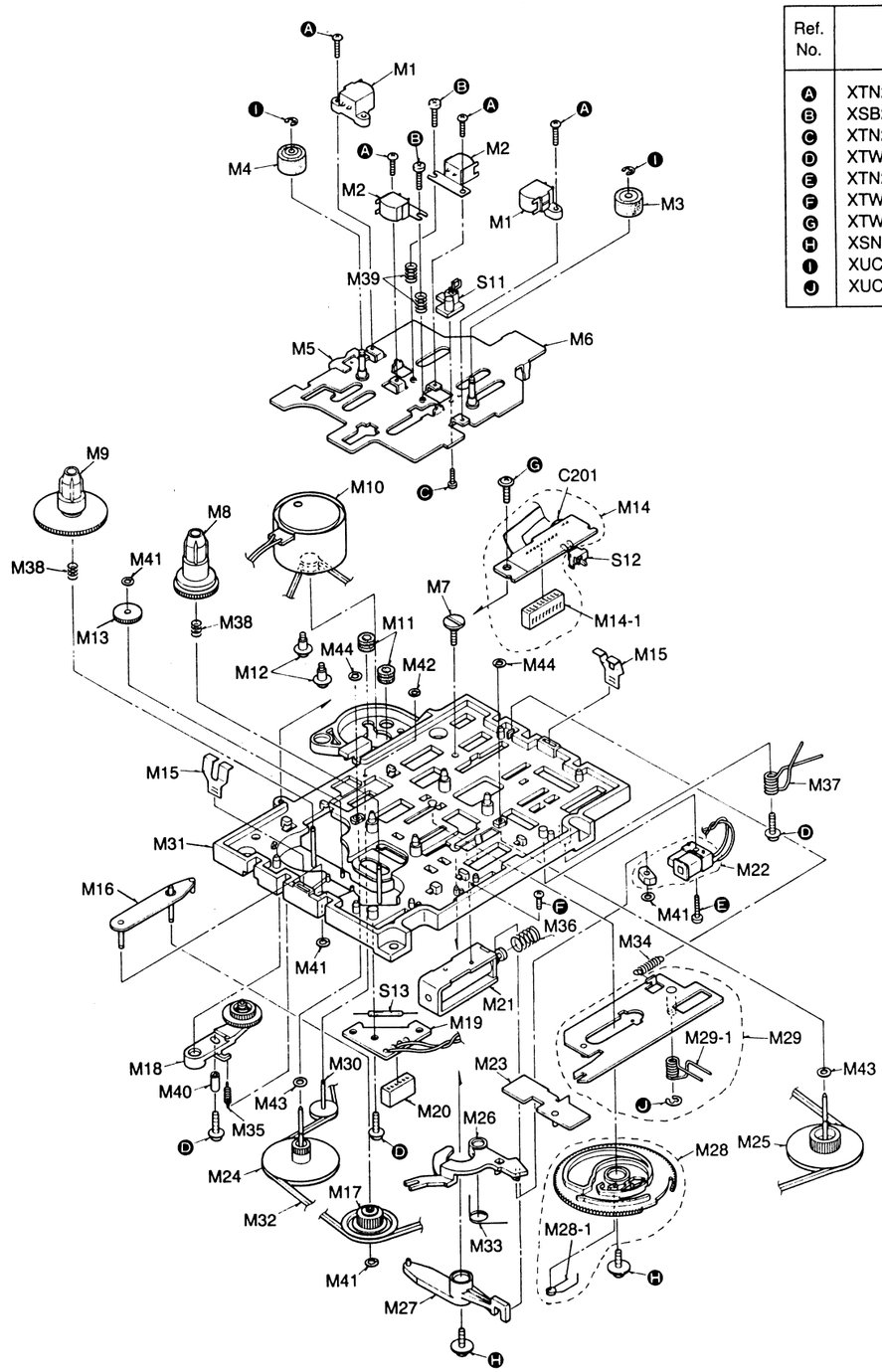


Fig. 10

MECHANICAL PARTS LOCATION



Ref. No.	Part No.
A	XTN2+5F
B	XSB2+6FN
C	XTN2+6J
D	XTW26+8F
E	XTN2+10J
F	XTW26+5LF
G	XTW3+S10M
H	XSN26+W6FS
I	XUC2FY
J	XUC3FP

Specifications

Playback torque	35~60 g • cm
Fast forward torque	90~150 g • cm
Rewind torque	90~150 g • cm

Fig. 11

ACCESSORIES AND PACKING MATERIALS

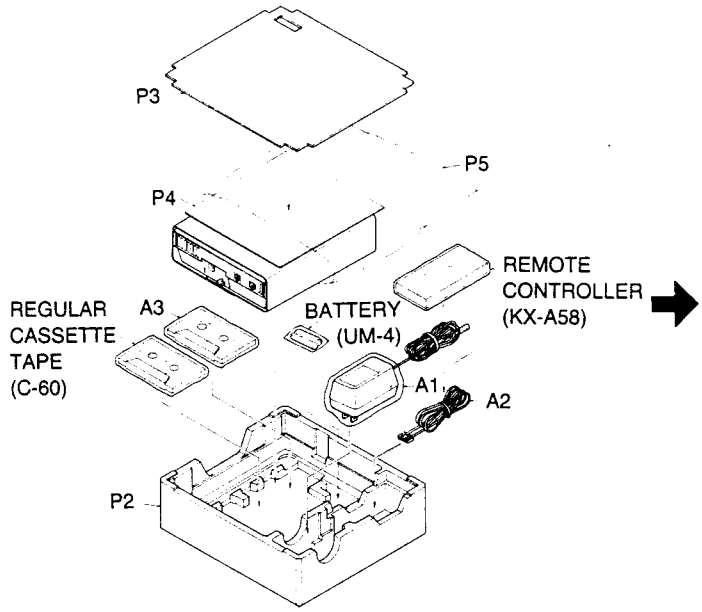


Fig. 12

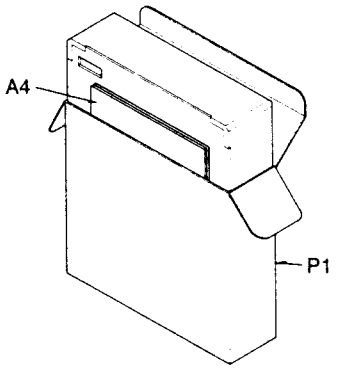


Fig. 13

PICKUP REMOTE CONTROLLER—MODEL KX-A58

■ LOCATION OF CONTROL

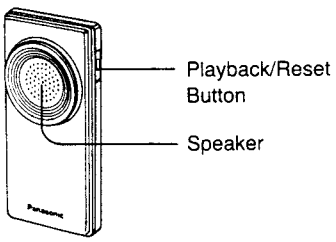


Fig. 14

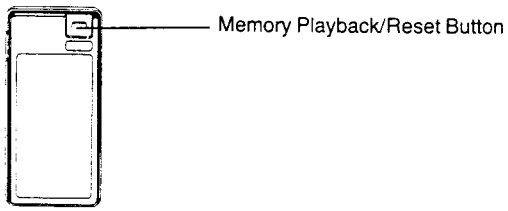


Fig. 15

Notes:

1. Code No. is on the bottom of the unit and on back of the Pickup Remote Controller.
2. Code No. is necessary to match the controller to the unit. Controllers not matching the machine will not operate the machine.

■ CABINET AND ELECTRICAL PARTS LOCATION

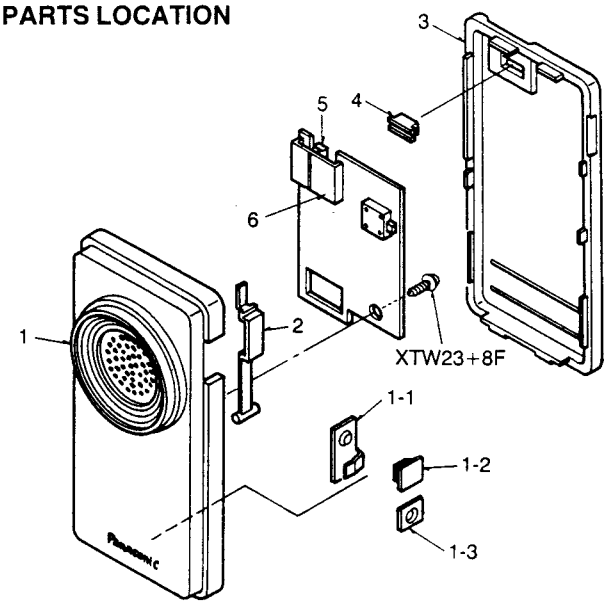
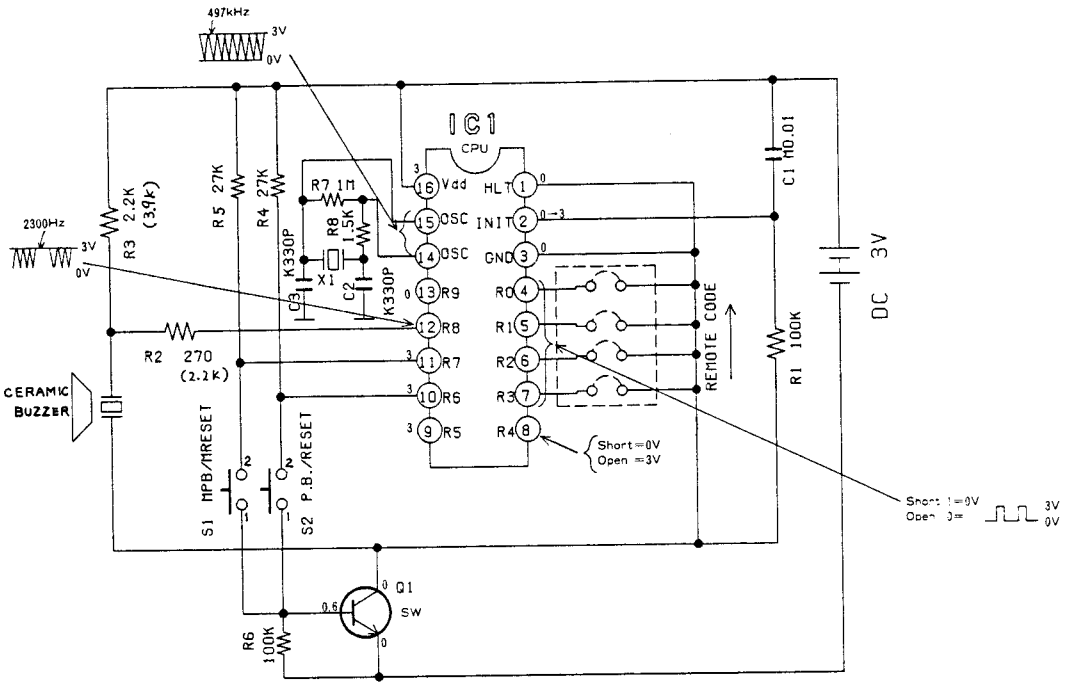
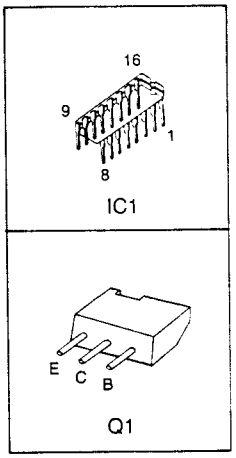


Fig. 16

■ SCHEMATIC DIAGRAM





R2 2.2 kΩ ┐
R3 3.9 kΩ ┘ Pair

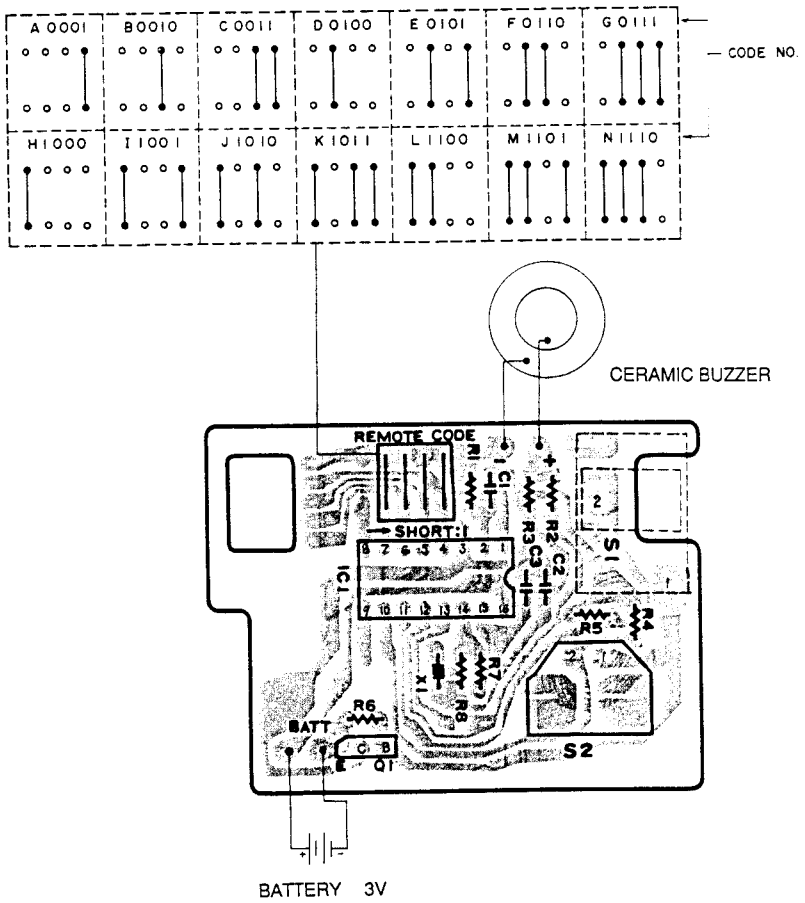
or

R2 270Ω ┐
R3 2.2 kΩ ┘ Pair

Notes:

1. S1. Memory Playback/Reset switch.
2. S2. Playback/Reset switch.
3. DC voltage measurements are taken with electronic voltmeter from negative terminal of battery.
4. The schematic diagram may be modified at any time with the development of new technology.

■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



REPLACEMENT PARTS LIST

Notes: Model: KX-T1418

1. Important safety notice.
Components identified by the ⚠ mark have special characteristics important for safety.
when replacing any of these components, use only manufacture's specified parts.
2. The S mark indicates service standard parts and may differ from production parts.
3. RESISTORS & CAPACITORS
Unless otherwise specified.
All resistors are in OHMS(Ω) k=1000Ω,M=1000kΩ
All capacitors are in MICRO FARADS(μF) P=μμF
*Type & Wattage of Resistor
Type

ERC:Solid	ERX:Metal Film	PQ4R: Chip
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fuse Resistor
PQRD:Carbon	ERO:Metal Film	ERF:Cement Resistor

Wattage

16:1/6W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W

*Type & Voltage of Capacitor
Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBA,PQCBC:Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG:Polyester
ECUV:Chip	ECEA,ECSZ,ECET:Electrolytic
PQCBX: Chip	ECQP:Polyoropylene

Voltage

ECQ Type		ECSZ Type	Others	
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		0J:6.3V	1E,25:25V	2A :100V

Ref.No	Part No.	Part Name and Description		Pcs
INTEGRATED CIRCUITS, TRANSISTORS AND DIODES				
IC1	PQVI4140SA05	IC		1
IC3	PQVITA7628P	IC		1
IC4,5	PQVITC4066BF	IC		2
IC7	AN6552	IC	S	1
IC8	PQVIIR3N05	IC	S	1
Q1	2SA937	Transistor(Si)		1
Q2-8, 14-16	2SC2021M	Transistor(Si)		10
Q10	2SD1266	Transistor(Si)		1
Q11-13	2SB909M	Transistor(Si)		3
D1	PQVDNV430D07	Varistor	S	1 ⚠
D2, 3	PQVDMTZ5R6	Diode(Si)		2 ⚠
D4	PQVDVR61B	Varistor		1 ⚠
D7, 9-15 ,17,19-22, 26-35, 302	1SS131	Diode(Si)	S	24
D23	PQVDMTZ6R8	Diode(Si)		1
D24	PQVDMTZ4R7	Diode(Si)		1
D25	1S2076	Diode(Si)		1
D201 ,202	PQVDSLZ151B1	LED	S	2
D203	LN324GPLS	LED		1
VARIABLE RESISTORS				
R24	PQVAL401A14A	Volume Control, 10k (A)		1
R63	EVM38GA00B23	Semi-Fixed, 2k (B)		1
TRANSFORMER				
T1	PQLT8G1C	Call Transformer		1 ⚠

Ref.No.	Part No.	Part Name and Description	Pcs
CERAMIC FILTER AND PHOTO COUPLER			
CF1	PQVBFC4004A3	Ceramic Filter	1
PC1	PQVIPC814K	Photo Coupler	1 ⚠
SWITCHES			
S1, 2	ESD-142123	Switch, CPC,REC Time	2
S3	PQSS3A17Z	Switch, Ring	1
S4,5,7,8,9	EVQ-QS205K	Switch, Memo, FF, OGM, REW, Erase	5
S6	EVQ-QSH04K	Switch, Power	1
S10	EVQ-QS405K	Switch, Playback/Pause	1
S11	PQFA9901Z	Switch, Sensing (for Deck)	1
S12	PQSH1A17Z	Switch, Head, Position (for Deck)	1
S13	PQSE17Y	Switch, Reed (for Deck)	1
RLY1	PQSL29Z	Relay	1 ⚠
MECHANICAL PARTS			
M1	PQJH6E4Z	Erase Head	2
M2	PQJH1E6Z	P/R Head	2
M3	PQFI1004Y	Pinch Poller (OGM)	1
M4	PQFI1004Z	Pinch Roller (ICM)	1
M5	PQFW37Z	Guide Rib, Position Switch	1
M6	PQFD9910Z	Head Base Assembly	1
M7	PQHD17Z	Screw	1
M8	PQFR9909Z	Reel Table (Supply) Assembly	1
M9	PQFR9910Z	Reel Table (Takeup) Assembly	1
M10	PQFM9908Z	Motor Assembly	1
M11	PQFI4Z	Rubber Spacer, Motor	2
M12	PQHD4Z	Screw, Motor M'tg	2
M13	PQFG45Z	Gear, FF	1
M14	PQFZ9903Z	Flexiable P.C.Board Assembly	1
M14-1	PQJS9B30Z	Connector, 9P	1
M15	PQFD73Z	Leaf Spring	2
M16	PQFD9908Z	F/R Lever Assembly	1
M17	PQFQ9901Z	F/R Pulley Assembly	1
M18	PQFR9911Z	Play Arm Assembly	1
M19	PQUP427Z	P.C.Board	1
M20	PQJS6B30Z	Connector, 6P	1
M21	PQFP119Z	Plunger-A	1
M22	PQFP120Z	Plunger-B	1
M23	PQFD9909Z	Operation Plate Assembly	1
M24	PQFF9905Z	Flywheel(ICM) Assembly	1
M25	PQFF9906Z	Flywheel(OGM) Assembly	1
M26	PQFY9905Z	Trigger Lever-B Assembly	1
M27	PQFY9904Z	Trigger Lever-A Assembly	1
M28	PQFG9903Z	Cam Gear Assembly	1
M28-1	PQFS97Z	Spring, Cam Gear	1
M29	PQFD9907Z	Assistant Plate Assembly	1
M29-1	PQFS92Z	Spring, Assistant Plate	1
M30	PQFQ9902Z	Idler Pulley Assembly	1
M31	PQFC9905Z	Mechanism Base Assembly	1
M32	PQFB15Z	Belt	1
M33	PQFS87Z	Spring, Trigger Lever-A	1
M34	PQFS93Z	Spring, Assistant Plate	1
M35	PQFS88Z	Spring, Play Arm	1
M36	PQFS86Z	Spring, Plunger-A	1
M37	PQFS94Z	Spring, Head Base	1
M38	PQFS90Z	Spring, Reel Table	2
M39	PQFS98Z	Spring, Head Azimuth	2
M40	PQHE11Z	Spacer	1
M41	PQFN7Z	Washer	4
M42	PQFN29Z	Washer	1
M43	PQFN12Z	Washer	2
M44	PQFN16Z	Washer	2

Ref. No.	Part No.	Part Name and Description	Pcs
		CABINET AND ELECTRICAL PARTS	
1	PQYMT1418M	Upper Cabinet Assembly	1
2	PQME46W	Arm, Cassette Lid	2
3	PQYQT1418M	Cassette Lid Assembly	1
4	PQBC142Z	Knob, Power	1
5	PQYFT1418M	Lower Cabinet Assembly	1
5-1	RHG1028Z	Rubber Leg	2
6	PQBD73Z	Knob, Volume	1
7	PQJS9L7Z	Connector Socket, 9P (CN3)	1
8	PQJP6D57Z	Connector Plug, 6P (CN2)	1
9	PQJP9D56Z	Connector Plug, 9P (CN1)	1
10	PQJM113Z	Microphone	1
11	PQHG503Z	Microphone Cover	1
12	PQAS5P05Z	Speaker	1
13	PQJJ1TA9Z	Telephone Jack	⚠ 2
14	PQJJ1TB4Z	DC IN Jack	1
15	PQNW401Z	Washer, LED	1

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
		RESISTORS			
R1	PQRDF2TJ680	68 ⚠	R51	ERD16TJ153	56k
R2	ERDS1TJ223	22k ⚠	R52	ERD16TJ222	2.2k
R3	ERD16TJ470	47 ⚠	R53	ERD16TJ102	1k
R4	ERD16TJ103	10k	R54	ERD16TJ153	56k
R5	ERD16TJ103	10k	R55	ERD16TJ184	180k
R6	ERD16TJ471	470	R56	ERD16TJ273	27k
R7	ERD10TLJ682	6.8k	R57	ERD16TJ223	22k
R8	ERD16TJ151	150	R58		
R9	ERD16TJ682	6.8k	|	Not Used	
R10	ERD16TJ154	150k	R60		
R11	ERD16TJ331	330	R61	ERD10TLJ222	2.2k
R12	ERD16TJ221	220	R62	ERD10TLJ394	390k
R13	Not Used		R64	ERD16TJ912	9.1k
R14	ERD10TLJ563	56k	R65	ERD16TJ472	4.7k
R15	ERD16TJ333	33k	R66	ERD16TJ472	4.7k
R16	ERD16TJ103	10k	R67	ERD10TLJ105	1M
R17	ERD10TLJ153	15k	R68	Not Used	
R18	ERD10TLJ223	22k	R69	ERD10TLJ103	10k
R19	ERD16TJ334	330k	R70		
R20	ERD10TLJ271	270	|	Not Used	
R21	ERD16TJ331	330	R72		
R22	ERD25TJ224	220k	R73	ERD10TLJ473	47k
R23	ERD16TJ104	100k	R74	ERD10TLJ122	1.2k
R25	ERD16TJ681	680	R75	ERD16TJ103	10k
R26	ERD16TJ473	47k	R76	ERD16TJ683	68k
R27	ERD16TJ103	10k	R77	PQRD1VJ391	390
R28	ERD16TJ681	680	R78	PQRQ2AJ180	18
R29	ERD16TJ681	680	R79	ERD16TJ472	4.7k
R30	ERD10TLJ333	33k	R80	ERD16TJ182	1.8k
R31	ERD16TJ473	47k	R81	ERD16TJ473	47k
R32	ERD16TJ102	1k	R82	ERD25TJ331	330
R33	ERD16TJ334	330k	R83	ERD25TJ221	220
R34	ERD16TJ153	15k	R84	ERD25TJ221	220
R35	ERD16TJ103	10k	R85	Not Used	
R36	ERD16TJ470	47	R86	Not Used	
R37	Not Used		R87	ERD10TLJ223	22k
R38	ERD16TJ152	1.5k	R88	ERD10TLJ103	10k
R39	Not Used		R89	ERD10TLJ103	10k
R40	ERD10TLJ273	27k	R90	Not Used	
R41	ERD10TLJ273	27k	R91	ERD16TJ104	100k
R42	ERD10TLJ100	10	R92	ERD16TJ122	1.2k
R43	Not Used		R93	ERD16TJ103	10k
R44	ERD16TJ272	2.7k	R94	ERD16TJ473	47k
R45	ERD16TJ152	1.5k	R95	ERD10TLJ122	1.2k
R46	ERD16TJ682	6.8k	R96	ERD10TLJ103	10k
R47	ERD10TLJ223	22k	R97	ERD16TJ473	47k
R48	ERD25TJ225	2.2M	R98	ERD10TLJ122	1.2k
R49	ERD10TLJ104	100k	R99	ERD10TLJ103	10k
R50	Not Used		R100	ERD16TJ473	47k

Ref. No.	Part No.	Value	Ref No.	Part No.	Value
R102	ERD16TJ102	1k	R201	ERD25TJ474	470k
			R202	ERD25TJ474	470k
		CAPACITORS			
C1	ECQE2474KS	0.47 ⚠	C35	PQCBX1C103MY	0.01
C2	Not Used		C36	PQCBC1C103MY	0.01
C3	ECEA0JU471	470	C37	Not Used	
C4	ECEA1HKSR33	0.33	C38	ECEA1HKS0R1	0.1
C5	Not Used		C39		
C6	PQCBC1C103MY	0.01	|	Not Used	
C7	ECEA1HUR33	0.33	C43		
C8	PQCBC1C103MY	0.01	C44	PQCBX1C103MY	0.01
C9	PQCBX1C103MY	0.01	C45	ECQV1H474JZ	0.47
C10	ECUV1H681KB	680P	C46	ECFD1E683MD	0.068
C11	ECEA1HU220	22 S	C47	PQCBX1C103MY	0.01
C12	PQCBC1C103MY	0.01	C48	ECQV1H473JZ	0.047
C13	ECEA1AU101	100	C49	ECEA1AU101	100
C14	ECEA0JU331	330	C50		
C15	ECEA0JU471	470	|	Not Used	
C16	ECEA1HKS010	1	C52		
C17	ECEA1HKS010	1	C53	PQCBX1C103MY	0.01
C18	PQCBC1H471KB	470P	C54	Not Used	
C19	ECUV1H471KB	470P	C55	ECEA0JU331	330
C20	ECEA1HU2R2	2.2	C56	ECEA0JU332	3300
C21	ECEA1HU100	10 S	C57	Not Used	
C22	ECFD1E223MD	0.022	C58	ECEA1HU3R3	3.3
C23	PQCBC1H681KB	680P	C59	PQCBX1C103MY	0.01
C24	ECEA1HU010	1	C60	Not Used	
C25	ECEA1VU330	33 S	C61	PQCBX1C103MY	0.01
C26	ECEA1CKS470	47 S			
C27	ECEA1AU221	220 S	C77	Not Used	
C28	ECEA1HKS010	1	C78	ECFD1E223MD	0.022
C29	Not Used				
C30	Not Used		C100	ECFD1E223MD	0.022
C31	ECEA1CK101	100 S	C101	PQCBC1C103MY	0.01
C32	ECEA1HKSR47	0.47	C102	PQCBX1C332MX	0.0033
C33	Not Used				
C34	PQCBC1C103MY	0.01	C201	ECEA1ESS101	100

		REMOTE CONTROLLER (KX-A58) PARTS	
IC1	PQVIBU3131	IC	1
Q1	2SC2021M	Transistor(Si)	1
CF1	PQWEA58AM	Ceramic Filter Assemoly	1
S2	PQSH1A26Z	Switch	1
R1,6	ERD16TJ104	100k	2
R2	ERD16TJ222	2.2k ┐ pair	1
R3	ERD16TJ392	3.9k ┘	1
R2	ERD16TJ271	270 ┐ pair	1
R3	ERD16TJ222	2.2k ┘	1
R4,5	ERD16TJ273	27k	2
R7	ERD16TJ105	1M	1
R8	ERD16TJ152	1.5k	1
C1	PQCBC1C103MY	0.01	1
C2,3	ECKD1H331KB	330P	1
1	PQYMA58AM	Cabinet Body Assemoly	1
1-1	PQJC903Y	Battery Terminal, (+) (-) Side	1
1-2	PQJC906Y	Battery Terminal, (-) Side	1
1-3	PQJC921Z	Battery Terminal, (+) Side	1
2	PQBC127Z	Button, Playback/Reset	1
3	PQKF93Z0	Cabinet Cover	1
4	PQBC26Z	Button, Memory Playback/Reset	1
5	PQJT317Z	Terminal	1
6	PQJT365Z	Terminal	1

Ref. No.	Part No.	Part Name and Description		Pcs
ACCESSORIES AND PACKING MATERIALS				
A1	KX-A07D	AC Adaptor	S	⚠ 1
A2	PQJA59Y	Telephone Cord		1
A3	PQJN4Z	Cassette Tape (Endless)		1
A4	PQQX5345Z	Instruction Book		1
P1	PQPK445Z	Gift Box		1
P2	PQPN671Z	Pad, Lower		1
P3	PQPN672Z	Pad, Upper		1
P4	PQPH55Z	Packing Sheet	S	1
P5	XZB25X34A04	Protection Cover	S	1